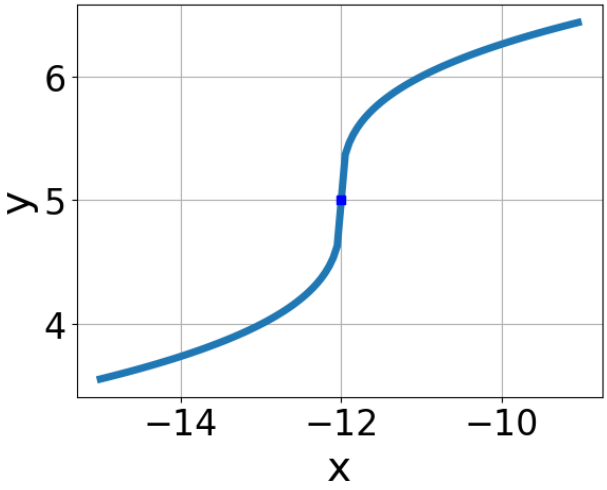
1. Choose the equation of the function graphed below.



A. $f(x) = -\sqrt[3]{x-12}+5$

B. $f(x) = -\sqrt[3]{x+12}+5$

C. $f(x) = \sqrt[3]{x-12}+5$

D. $f(x) = \sqrt[3]{x+12}+5$

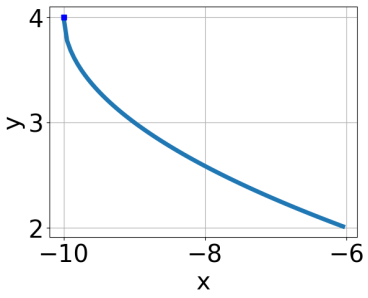
E. None of the above

---

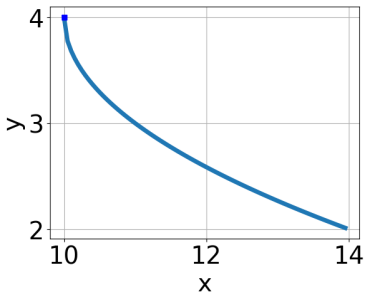
2. Choose the graph of the equation below.

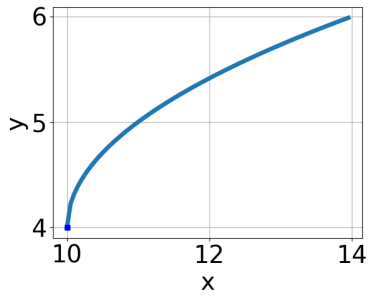
$$f(x) = \sqrt{x+10}+4$$

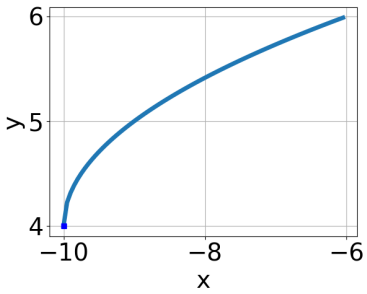
A.



B.



C. 

D. 

E. None of the above.

---

3. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-36x^2 - 12} - \sqrt{-42x} = 0$$

A. $x \in [0.2, 0.59]$

B. All solutions lead to invalid or complex values in the equation.

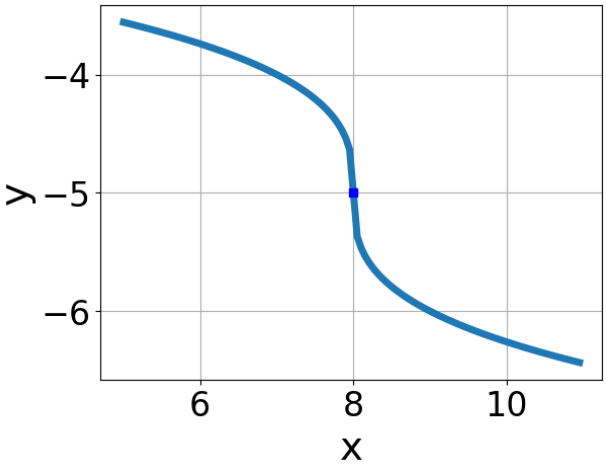
C. $x_1 \in [-0.62, -0.24]$ and $x_2 \in [-2.67, 0.33]$

D. $x_1 \in [0.2, 0.59]$ and $x_2 \in [-0.33, 2.67]$

E. $x \in [0.66, 1.01]$

---

4. Choose the equation of the function graphed below.



A. $f(x) = -\sqrt{x - 8} - 5$

B. $f(x) = \sqrt{x-8} - 5$

C. $f(x) = -\sqrt{x+8} - 5$

D. $f(x) = \sqrt{x+8} - 5$

E. None of the above

---

5. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{56x^2 + 15} - \sqrt{59x} = 0$$

A. $x_1 \in [-0.77, -0.42]$ and $x_2 \in [-1.17, 0.14]$

B. All solutions lead to invalid or complex values in the equation.

C. $x_1 \in [0.41, 0.43]$ and $x_2 \in [-0.14, 1.56]$

D. $x \in [0.58, 0.79]$

E. $x \in [0.41, 0.43]$

---

6. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{2x+8} - \sqrt{7x-5} = 0$$

A. $x_1 \in [-4.6, -3.8]$ and $x_2 \in [-0.1, 2.1]$

B. All solutions lead to invalid or complex values in the equation.

C. $x \in [0, 0.9]$

D. $x_1 \in [-4.6, -3.8]$ and $x_2 \in [1.7, 5]$

E. $x \in [1.8, 2.9]$

---

7. What is the domain of the function below?

$$f(x) = \sqrt[8]{4x-3}$$

A. $(-\infty, a]$, where $a \in [1.2, 1.4]$

B. $[a, \infty)$, where $a \in [0.51, 1.04]$

C. $[a, \infty)$, where $a \in [0.76, 2.39]$

D. $(-\infty, \infty)$

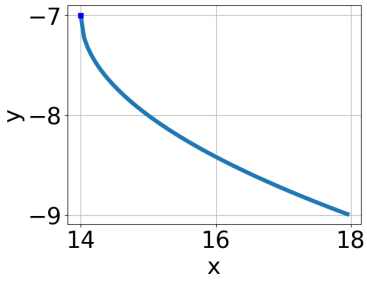
E. $(-\infty, a]$, where $a \in [-1.6, 1.2]$

---

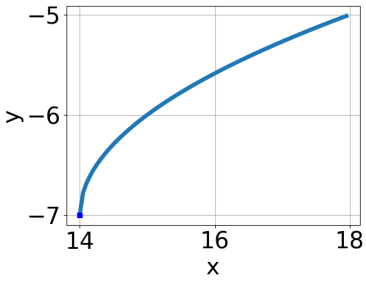
8. Choose the graph of the equation below.

$$f(x) = -\sqrt{x + 14} - 7$$

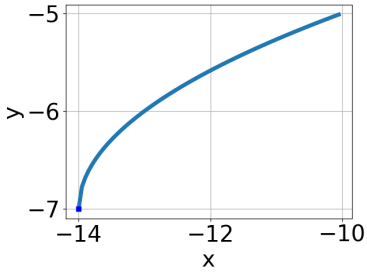
A.



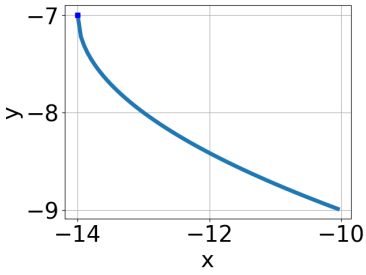
C.



B.



D.



E. None of the above.

---

9. What is the domain of the function below?

$$f(x) = \sqrt[5]{-9x - 6}$$

A. The domain is $[a, \infty)$, where $a \in [-0.95, -0.02]$

B. The domain is $(-\infty, a]$, where $a \in [-1.7, -0.82]$

C. The domain is $[a, \infty)$, where $a \in [-1.73, -0.78]$

D. The domain is $(-\infty, a]$, where $a \in [-1.03, -0.19]$

E. $(-\infty, \infty)$

---

10. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-6x+5} - \sqrt{8x+8} = 0$$

A. $x_1 \in [-1.15, -0.55]$ and $x_2 \in [-1.17, 1.83]$

B. $x \in [-0.31, 0.77]$

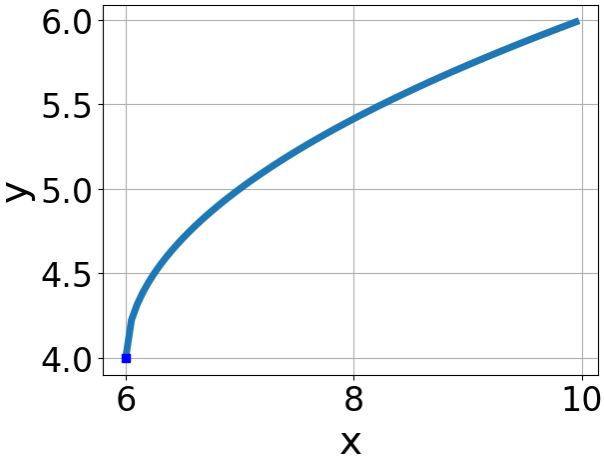
C. All solutions lead to invalid or complex values in the equation.

D. $x_1 \in [-0.31, 0.77]$ and $x_2 \in [-1.17, 1.83]$

E. $x \in [0.92, 1.48]$

---

11. Choose the equation of the function graphed below.



A. $f(x) = \sqrt{x+6} + 4$

B. $f(x) = -\sqrt{x+6} + 4$

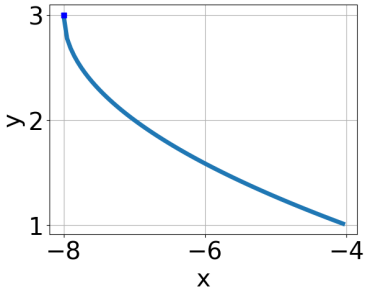
C. $f(x) = -\sqrt{x-6} + 4$

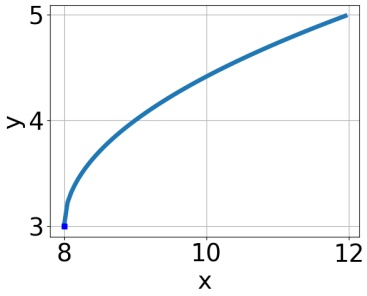
D. $f(x) = \sqrt{x-6} + 4$

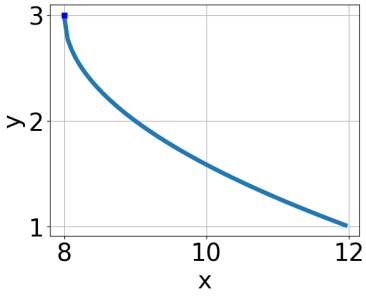
E. None of the above

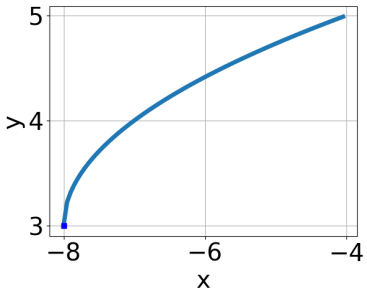
12. Choose the graph of the equation below.

$$f(x) = -\sqrt{x-8} + 3$$

A. 

C. 

B. 

D. 

E. None of the above.

13. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{63x^2 + 10} - \sqrt{59x} = 0$$

A. $x_1 \in [-0.44, 0.67]$ and $x_2 \in [0.6, 2.1]$

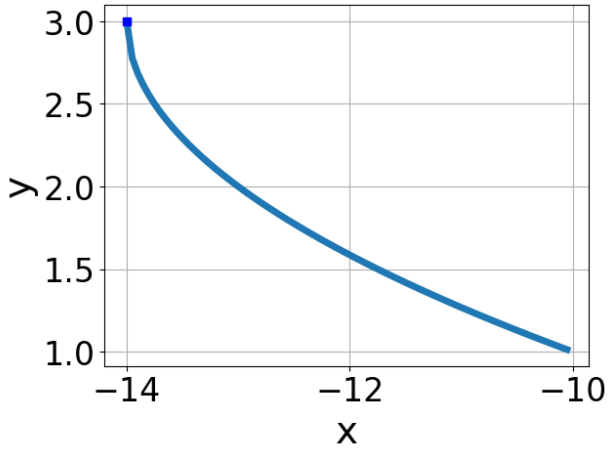
B. $x_1 \in [-0.88, -0.67]$ and $x_2 \in [-0.6, -0.1]$

C. $x \in [0.27, 1.08]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [-0.44, 0.67]$

14. Choose the equation of the function graphed below.



A. $f(x) = \sqrt{x+14}+3$

B. $f(x) = -\sqrt{x-14}+3$

C. $f(x) = \sqrt{x-14}+3$

D. $f(x) = -\sqrt{x+14}+3$

E. None of the above

---

15. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-12x^2+30} - \sqrt{-2x} = 0$$

A. $x_1 \in [1.3, 1.55]$ and $x_2 \in [-3.33, 2.67]$

B. $x_1 \in [-1.64, -1.4]$ and $x_2 \in [-3.33, 2.67]$

C. All solutions lead to invalid or complex values in the equation.

D. $x \in [-1.64, -1.4]$

E. $x \in [1.6, 1.77]$

---

16. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-4x+8} - \sqrt{-9x-6} = 0$$

A. $x_1 \in [-1.21, -0.61]$ and $x_2 \in [-2, 7]$

B. $x_1 \in [-3.15, -2.55]$ and $x_2 \in [-2, 7]$

C. $x \in [-3.15, -2.55]$

D. $x \in [-0.45, 0.32]$

E. All solutions lead to invalid or complex values in the equation.

---

17. What is the domain of the function below?

$$f(x) = \sqrt[5]{-6x + 4}$$

A. The domain is $(-\infty, a]$, where $a \in [-5.2, 1.4]$

B. The domain is $(-\infty, a]$, where $a \in [1.2, 1.9]$

C. $(-\infty, \infty)$

D. The domain is $[a, \infty)$, where $a \in [1.32, 1.96]$

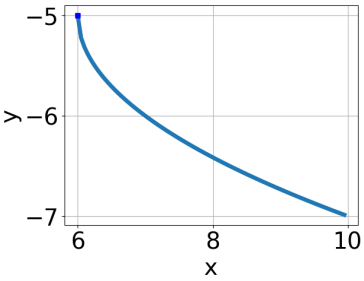
E. The domain is $[a, \infty)$, where $a \in [-0.15, 1.37]$

---

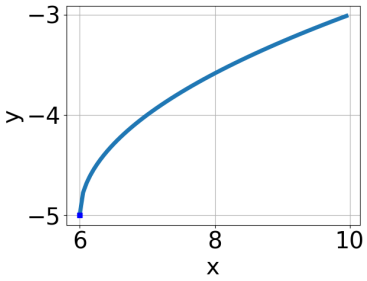
18. Choose the graph of the equation below.

$$f(x) = -\sqrt{x + 6} - 5$$

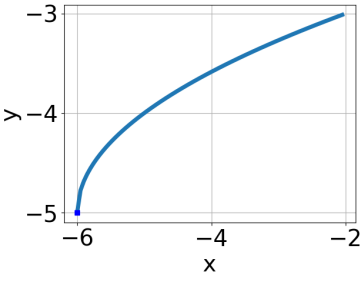
A.



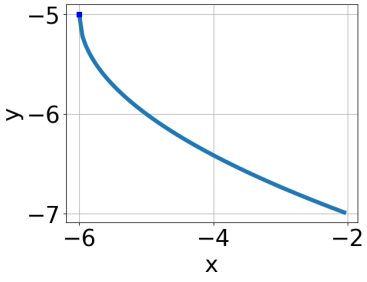
C.



B.



D.



E. None of the above.

---

19. What is the domain of the function below?

$$f(x) = \sqrt[6]{3x+6}$$

A. $[a, \infty)$, where $a \in [-0.6, 0.2]$

B. $(-\infty, a]$, where $a \in [-2.3, -1.5]$

C. $(-\infty, a]$, where $a \in [-1.8, 0.5]$

D. $(-\infty, \infty)$

E. $[a, \infty)$, where $a \in [-2.8, -0.7]$

---

20. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{7x+6} - \sqrt{9x-9} = 0$$

A. $x \in [7.22, 8.19]$

B. $x_1 \in [-1.3, 0.85]$ and $x_2 \in [-1, 4]$

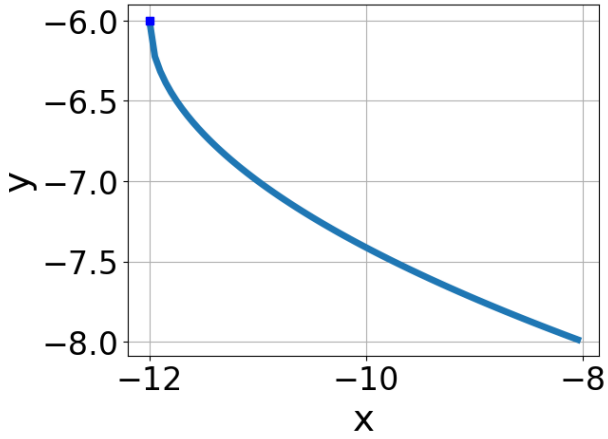
C. $x_1 \in [-1.3, 0.85]$ and $x_2 \in [5.5, 11.5]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [-3.06, -0.9]$

---

21. Choose the equation of the function graphed below.



A. $f(x) = \sqrt{x - 12} - 6$

B. $f(x) = -\sqrt{x - 12} - 6$

C. $f(x) = \sqrt{x + 12} - 6$

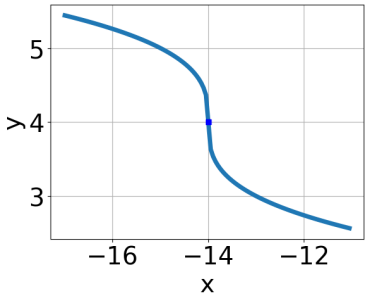
D. $f(x) = -\sqrt{x + 12} - 6$

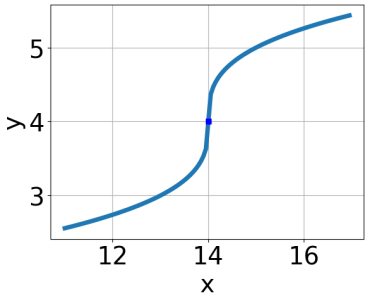
E. None of the above

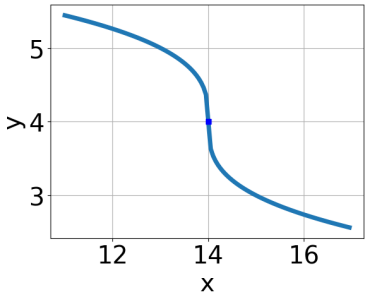
---

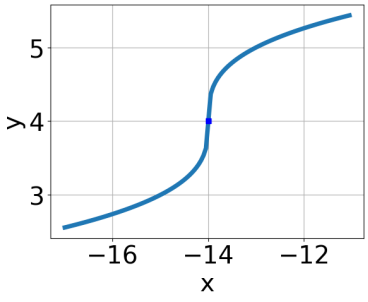
22. Choose the graph of the equation below.

$$f(x) = -\sqrt[3]{x + 14} + 4$$

A.


C.


B.


D.


E. None of the above.

---

23. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-40x^2+8}-\sqrt{-4x}=0$$

A. All solutions lead to invalid or complex values in the equation.

B. $x \in [0.42, 0.5]$

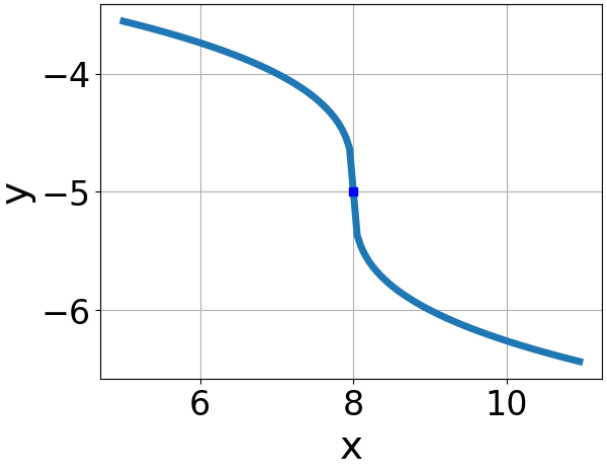
C. $x \in [-0.56, -0.3]$

D. $x_1 \in [-0.56, -0.3]$ and $x_2 \in [-5.5, 4.5]$

E. $x_1 \in [0.35, 0.45]$ and $x_2 \in [-5.5, 4.5]$

---

24. Choose the equation of the function graphed below.



A. $f(x)=\sqrt[3]{x-8}-5$

B. $f(x)=\sqrt[3]{x+8}-5$

C. $f(x)=-\sqrt[3]{x-8}-5$

D. $f(x)=-\sqrt[3]{x+8}-5$

E. None of the above

---

25. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{10x^2 + 45} - \sqrt{-55x} = 0$$

A. All solutions lead to invalid or complex values in the equation.

B. $x \in [-5.6, -3.1]$

C. $x \in [-1.1, 0.1]$

D. $x_1 \in [-5.6, -3.1]$ and $x_2 \in [-4, 1]$

E. $x_1 \in [0.2, 1.3]$ and $x_2 \in [0.5, 6.5]$

---

26. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-4x - 8} - \sqrt{5x - 6} = 0$$

A. $x \in [-0.92, 1.18]$

B. $x_1 \in [-2.87, -1.88]$ and $x_2 \in [1, 2.4]$

C. $x \in [-1.86, -1.48]$

D. All solutions lead to invalid or complex values in the equation.

E. $x_1 \in [-2.87, -1.88]$ and $x_2 \in [-0.9, 0.9]$

---

27. What is the domain of the function below?

$$f(x) = \sqrt[4]{-5x + 8}$$

A. $[a, \infty)$, where $a \in [0, 1]$

B. $(-\infty, a]$, where $a \in [-1.3, 1.2]$

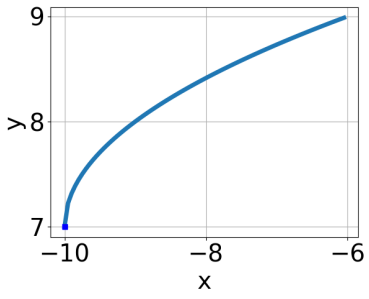
C. $(-\infty, \infty)$

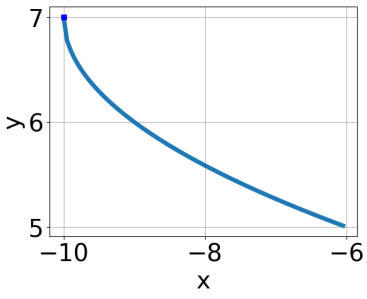
D. $(-\infty, a]$, where $a \in [1.3, 5.9]$

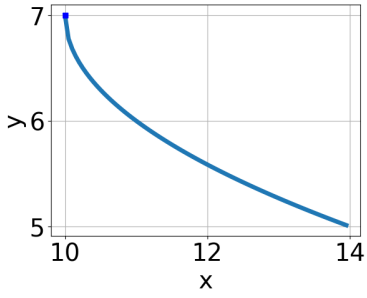
E. $[a, \infty)$, where $a \in [1.1, 4.5]$

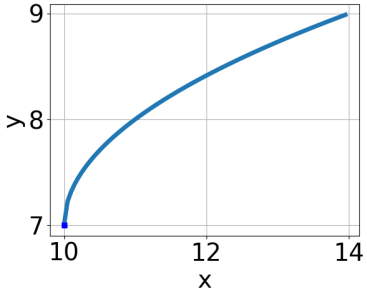
28. Choose the graph of the equation below.

$$f(x) = \sqrt{x - 10} + 7$$

A. 

C. 

B. 

D. 

E. None of the above.

29. What is the domain of the function below?

$$f(x) = \sqrt[5]{3x - 9}$$

A. The domain is $[a, \infty)$, where $a \in [0.3, 1.6]$

B. The domain is $(-\infty, a]$, where $a \in [-1.67, 2.33]$

C. The domain is $[a, \infty)$, where $a \in [1.6, 6.1]$

D. $(-\infty, \infty)$

E. The domain is $(-\infty, a]$, where $a \in [2, 5]$

30. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{9x + 8} - \sqrt{7x + 2} = 0$$

A. $x_1 \in [-3.06, -2.66]$ and $x_2 \in [-1.29, -0.58]$

B. $x \in [-3.06, -2.66]$

C. $x \in [-5.14, -3.53]$

D. All solutions lead to invalid or complex values in the equation.

E. $x_1 \in [-1.31, 0.27]$ and $x_2 \in [-0.54, 0.15]$
